

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (Currently Amended) A stereo camera₁ comprising:

a pair of photographing optical systems that produces a corresponding pair of photographing areas, said pair of photographing optical systems being located in a common plane to enable a common photographing coverage between each of the pair of photographing areas;

an object distance measuring device that measures a distance to an object;

a pair of variable angle prisms, one variable angle prism of said pair of [[a]]
variable angle prism prisms being provided in a light path of each photographing optical
system of said pair of photographing optical systems, ~~that~~ wherein each variable angle
prism varies an angle of convergence, defined by optical axes of said pair of
photographing optical systems, to adjust an amount of the common photographic
coverage of said pair of photographing optical systems; and

a controller that drives said variable angle ~~prism prisms~~ in accordance with object
distance data corresponding to the measured distance, to vary an apex angle of the
variable ~~prism prisms~~.

2. (Currently Amended) The stereo camera according to claim 9, wherein

said pair of photographing optical systems each comprise a photographing lens
and an image pickup device; and

said convergence angle adjustment mechanism comprises a drive mechanism which rotates each photographing optical system to vary the angle of convergence in a direction to make median lines of field angles of said pair of photographic optical systems intersect each other.

3. (Previously Presented) The stereo camera according to claim 2, wherein said drive mechanism comprises:

a pair of rotary plates having respective center axes of rotation in parallel with each other, said pair of rotary plates supporting said pair of photographing optical systems and having inter-meshing sector gears;

a sector worm wheel provided on one of said rotary plates; and

a worm which is in mesh with said sector worm wheel, said worm being secured to a drive shaft of a motor.

4. (Previously Presented) The stereo camera according to claim 9, wherein said convergence angle adjustment mechanism comprises a variable angle prism provided in a light path of each said pair of photographing optical systems.

5. (Previously Presented) The stereo camera according to claim 9, wherein said convergence angle adjustment mechanism comprises a drive mechanism that moves at least a part of each of said pair of photographing optical systems in a direction of a base length of said pair of photographing optical systems.

6. (Previously Presented) The stereo camera according to claim 1, wherein each of said pair of photographing optical systems comprises an image pickup device that performs a passive measurement of an object distance, such that a measurement point of each said image pickup device is located in an inner half of a field angle of the corresponding photographing optical system.

7. (Previously Presented) The stereo camera according to claim 1, wherein said stereo camera is applied to an electronic still camera.

8. (Currently Amended) A stereo camera comprising:
at least a pair of photographing optical systems arranged in a common plane;
a pair of variable angle prisms, one variable angle prism of said pair of [[a]]
variable angle prism prisms being provided in a light path of each photographing optical
system of the at least a pair of photographing optical systems; and
a convergence angle controller that varies an angle of convergence defined by optical axes of said pair of photographing optical systems based on at least a measured object distance, by driving the variable angle ~~prism~~ prisms to vary an apex angle of the variable ~~prism~~ prisms.

9. (Currently Amended) A stereo camera comprising:
a pair of photographing optical systems that produce a corresponding pair of photographing areas, said pair of photographing optical systems being located in a common plane to produce a common photographing coverage between each of the pair

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of photographing areas, each photographing optical system including an image pickup device that performs a passive distance measurement of an object distance;

an object distance measuring device that performs an active distance measurement to measure a distance to an object;

a convergence angle adjustment mechanism that varies an angle of convergence, defined by optical axes of said pair of photographing optical systems, to adjust an amount of the common photographic coverage of said pair of photographing optical systems; and

a controller that controls each of the pair of photographing optical systems to perform the passive distance measurement of an object distance until such time as a release button is depressed at least by a half step, controls the object distance measuring device to perform the active distance measurement after the release button is depressed at least by a half step, and controls the convergence angle adjustment mechanism in accordance with object distance data corresponding to the measured distance to the object obtained by the active measurement.

10. (Previously Presented) The stereo camera according to claim 1, wherein said object distance measuring device comprises an image sensor that performs an active distance measurement.

11. (Previously Presented) The stereo camera according to claim 1, wherein the distance measured by said object distance measuring device comprises a distance from

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a point on the common plane, located between said pair of photographing optical systems, to the object.

12. (Previously Presented) The stereo camera according to claim 11, wherein the point on the common plane is centered between said pair of photographing optical systems.

13. (Previously Presented) The stereo camera according to claim 1, further comprising a pair of passive distance measuring devices, distinct from the object distance measuring device.

14. (Previously Presented) The stereo camera according to claim 13, wherein the pair of photographing optical systems perform a focusing function based on data obtained from the pair of passive distance devices.

15. (Currently Amended) The stereo camera according to claim 9, said controller further controlling each of the pair of photographing optical systems to perform photometering operations until said release button is depressed at least by a half step.

16. (Currently Amended) The stereo camera according to claim 9, said controller further controlling each of the pair of photographing optical systems to perform autoexposure and/or autofocus operations until said release button is depressed at least by a half step.

17. (Previously Presented) The stereo camera according to claim 1, said variable angle prism provided in a light path of one of said photographing optical systems being configured such that an angle of convergence obtained at said one of said photographing optical systems is identical to an angle of convergence obtained at said other of said photographing optical systems.

18. (Previously Presented) The stereo camera according to claim 8, said variable angle prism provided in a light path of one of said photographing optical systems being configured such that an angle of convergence obtained at said one of said photographing optical systems is identical to an angle of convergence obtained at said other of said photographing optical systems.